STEREO POWER AMPLIFIER

KM-206

SERVICE MANUAL

KENWOOD

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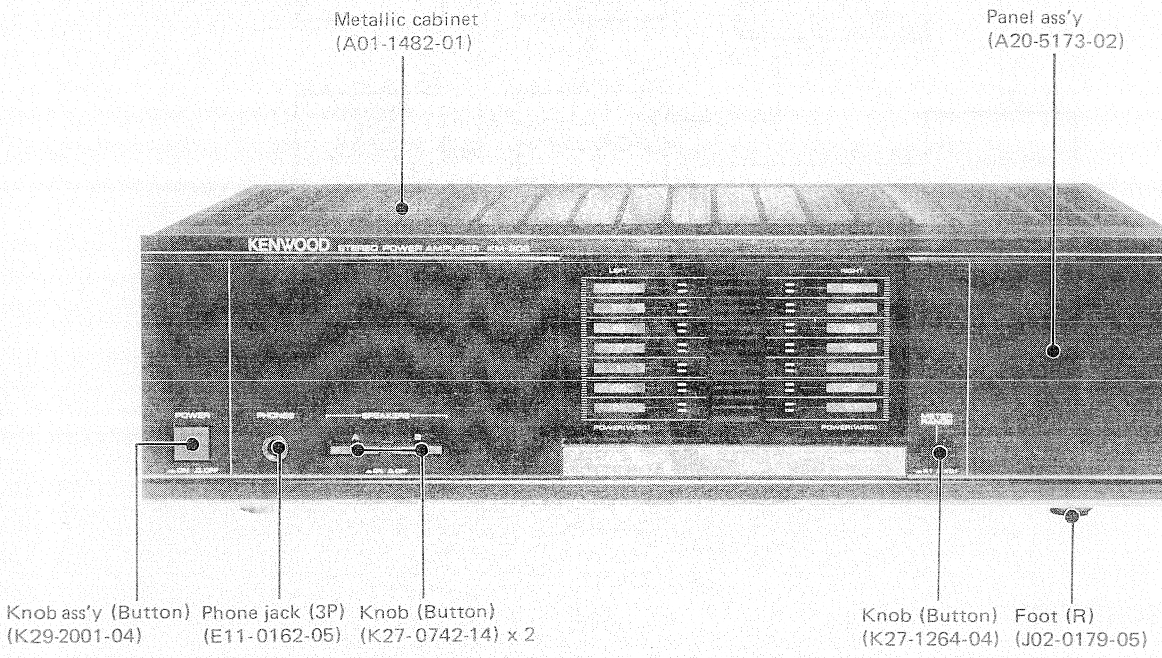
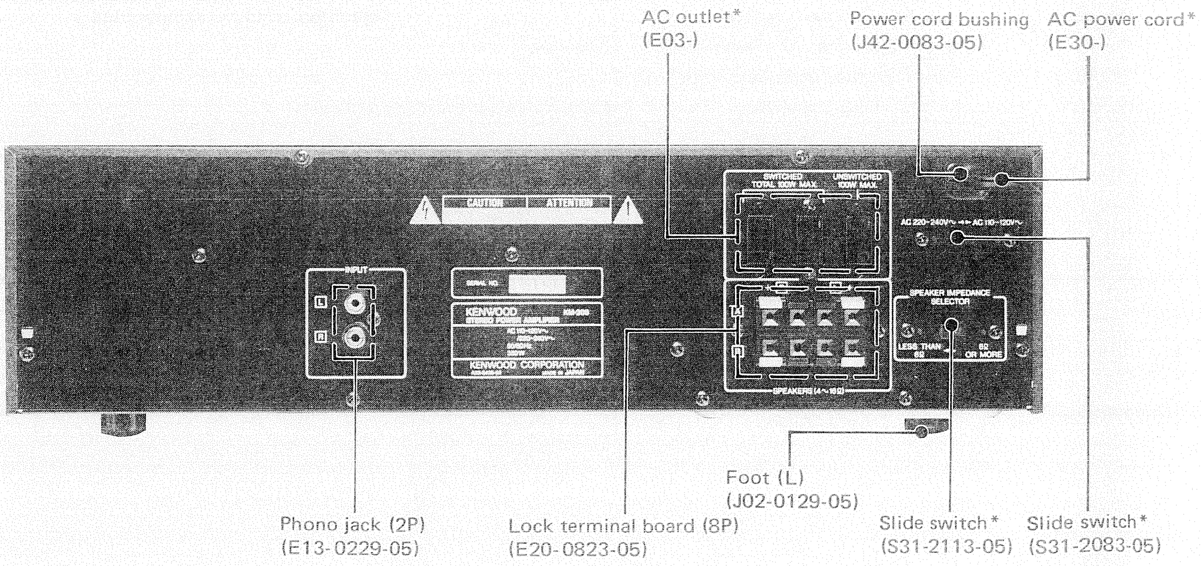
B51-3152-00 (O) 1606


Metallic cabinet
(A01-1482-01)
Panel ass'y
(A20-5173-02)
Knob ass'y (Button)
(K29-2001-04)
Phone jack (3P)
(E11-0162-05)
Knob (Button)
(K27-0742-14) x 2
Knob (Button)
(K27-1264-04)
Foot (R)
(J02-0179-05)

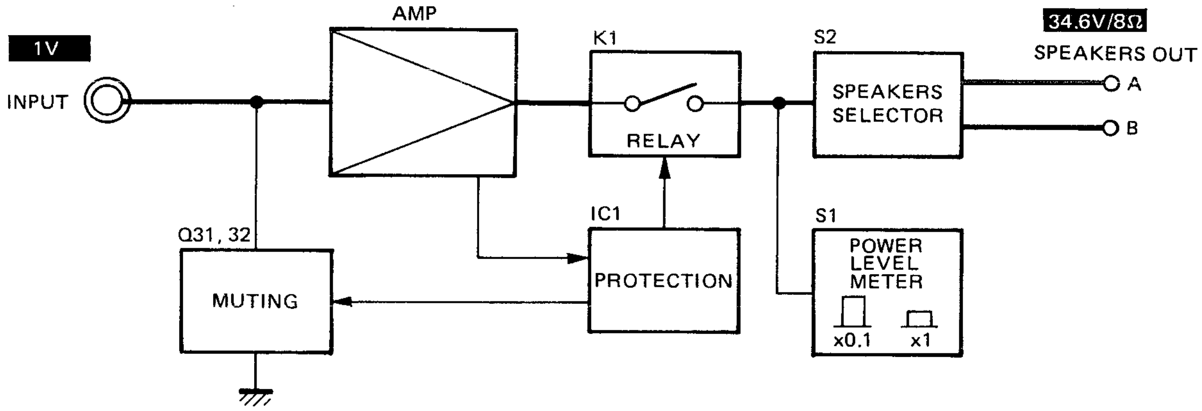

AC outlet*
(E03-)
Power cord bushing
(J42-0083-05)
AC power cord*
(E30-)
Foot (L)
(J02-0129-05)
Phono jack (2P)
(E13-0229-05)
Lock terminal board (8P)
(E20-0823-05)
Slide switch*
(S31-2113-05)
Slide switch*
(S31-2083-05)

*Refer to parts list on page 10.

Note : Specifications is written on page 4.

BLOCK DIAGRAM/CIRCUIT DESCRIPTION

BLOCK LEVEL DIAGRAM


1V
INPUT
AMP
K1
RELAY
S2
SPEAKERS SELECTOR
34.6V/8Ω
SPEAKERS OUT
A
B
IC1
PROTECTION
Q31, 32
MUTING
S1
POWER LEVEL METER
x0.1
x1

CIRCUIT DESCRIPTION

Description of Components

POWER AMPLIFIER (X07-227X-XX)

Components	Application/function	Operation/condition/compatibility
Q1~4	Initial stage differential amplifier	Low noise.
Q5~8	2nd stage differential amplifier	
Q9, 10	3rd stage amplifier	Class A cascade current amplifier.
Q11, 12	3rd stage amplifier	Class A cascade voltage amplifier.
Q13, 14	Bias temperature compensation	
Q15~18	Class B driver	
Q19~22	Power amplifier	
Q23~30	Current protection	
Q31, 32	Input muting	
Q33	Relay driver IC	Current protection.
Q34	Constant voltage control	
Q35, 36	Muting driver	
Q37~40	LED driver	

ADJUSTMENT/REGLAGE/ABGLEICH

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	AMPLIFIER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
1	IDLE CURRENT	–	Connect a DC voltmeter across CP1 (L) CP2 (R)	VOLUME: 0	VR1 (L) VR2 (R)	9～18mV	(a)

REGLAGE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DE L'AMPLIFICATEUR	POINS L'ALIGNEMENT	ALIGNER POUR	FIG.
1	COURANT DE POLARISATION	–	Connecter un voltmètre de CC sur CP1 (G) CP2 (D)	VOLUME: 0	VR1 (G) VR2 (D)	9～18mV	(a)

ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	VORSTARKER EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FUR	ABB.
1	LEERLAUFSTROM	–	Einen Gleichspannungsmesser über CP1 (L) CP2 (R) anschließen.	VOLUME: 0	VR1 (L) VR2 (R)	9～18mV	(a)

SPECIFICATIONS

Rated Power Output

150 watts per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.03% total harmonic distortion.

Both channels driven (Except U.S.A. and Canada)	
(8 ohms, 1 kHz)	155 W + 155 W
(4 ohms, 1 kHz)	130 W + 130 W
Music Power Output (8 ohms)	
(Except USA and Canada)	310 W + 310 W
Total Harmonic Distortion	
20 Hz to 20,000 Hz	0.03% at rated power into 8 ohms 0.015% at 1/2 rated power into 8 ohms
1 kHz	0.002% at 1/2 rated power into 8 ohms
Intermodulation Distortion	
(60 Hz:7 kHz = 4:1)	0.002% at rated power into 8 ohms
Frequency Response	5 Hz to 200 kHz, +0, −3 dB
Power Bandwidth	
(0.2 % THD, 8 ohms)	10 Hz to 50 kHz
Signal-to-Noise Ratio	120 dB
Damping Factor	35 at 50 Hz

General

Power Consumption	5 A (USA and Canada) 350 W (Others)
AC Outlets	Switched 2, Unswitched 1 (Except some area)
Dimensions	W 420 mm (16-9/16") H 123 mm (4-13/16") D 269 mm (10-9/16")
Weight (Net)	8.5 kg (18.7 lb)

Note :

We follow a policy of continuous advancements in developments. For this reason specifications may be changed without notice.

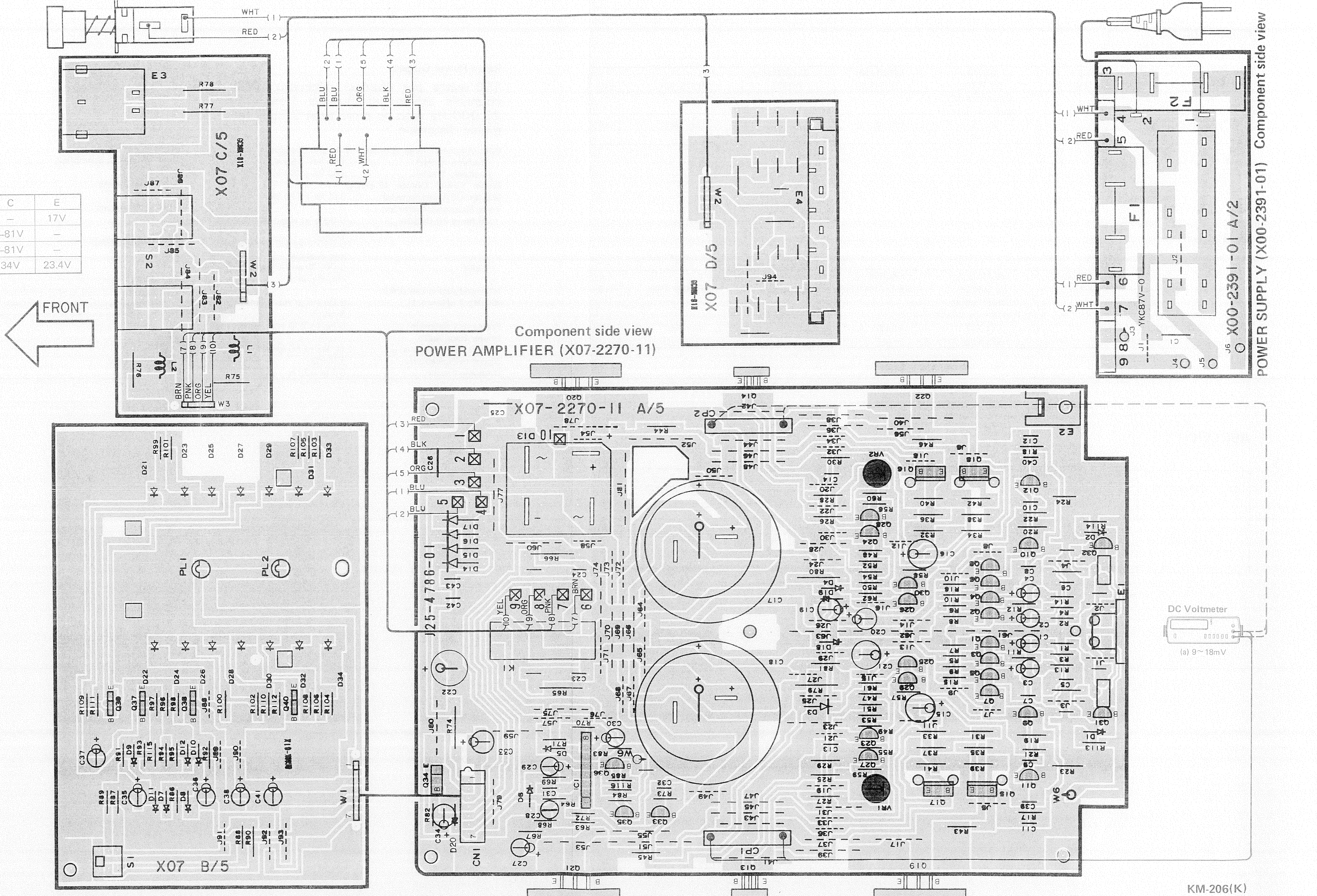
PC BOARD

(X07-2270-11)

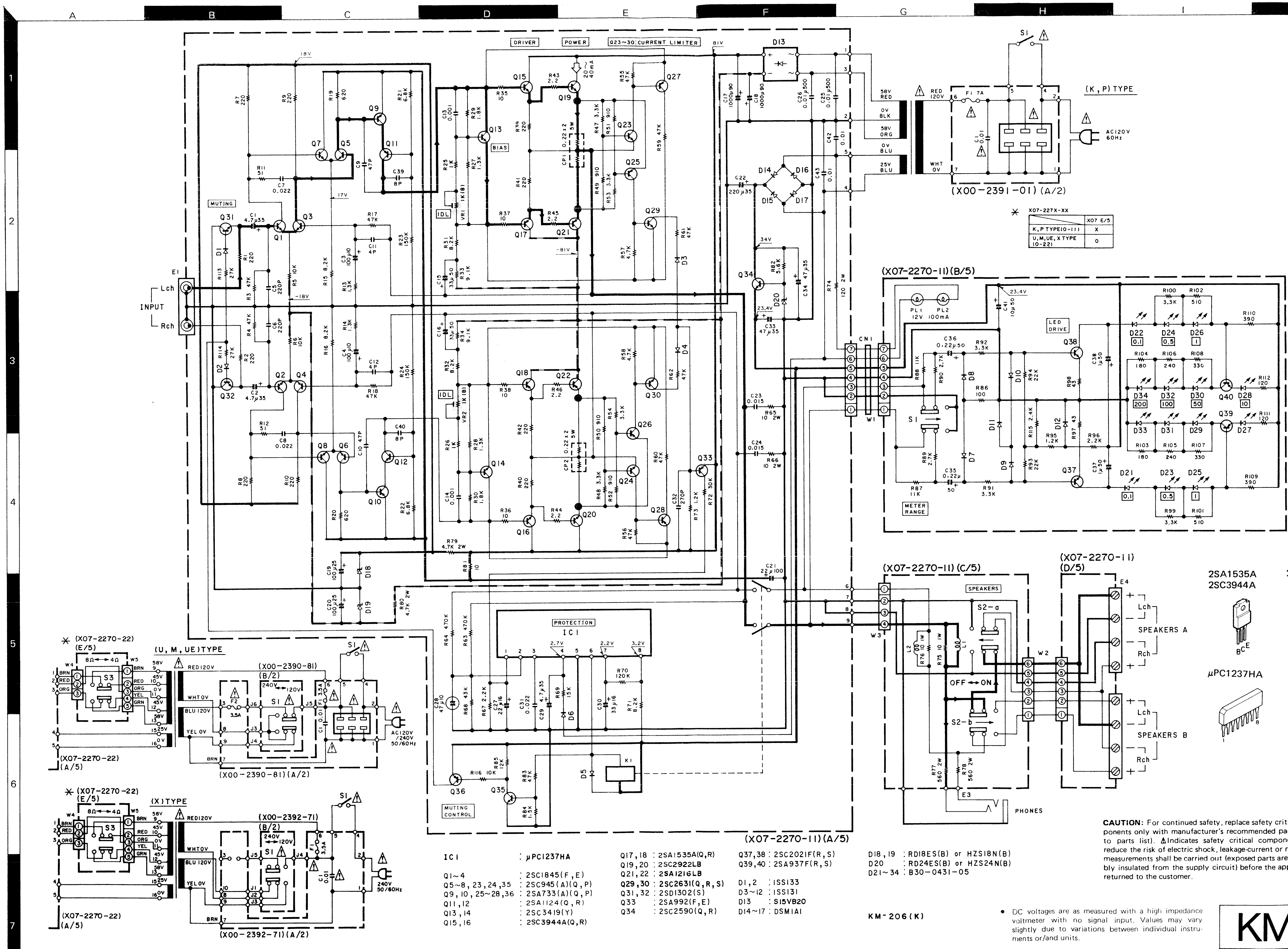
	B	C	E
Q5,Q7	—	—	17V
Q17,Q18	—	−81V	—
Q21,Q22	—	−81V	—
Q34	—	34V	23.4V

IC1

4	2.7V
7	2.2V
8	3.2V


FRONT
WHT
RED
BLU
ORG
BLK
X07 C/5
E3
R78
R77
J87
J86
J85
J84
J83
J82
S2
W2
L1
L2
R75
R76
BRN
PNK
ORG
YEL
W3
X07 D/5
E4
J94
Component side view
POWER AMPLIFIER (X07-2270-11)
X07-2270-11 A/5
J25-4786-01
CP1
CP2
VR1
VR2
IC1
CN1
E2
W6
X07 B/5
PL1
PL2
S1
W1
POWER SUPPLY (X00-2391-01) Component side view
X00-2391-01 A/2
YKC87V-0
F1
DC Voltmeter
(a) 9~18mV

Refer to the schematic diagram for the values of resistors and capacitors.

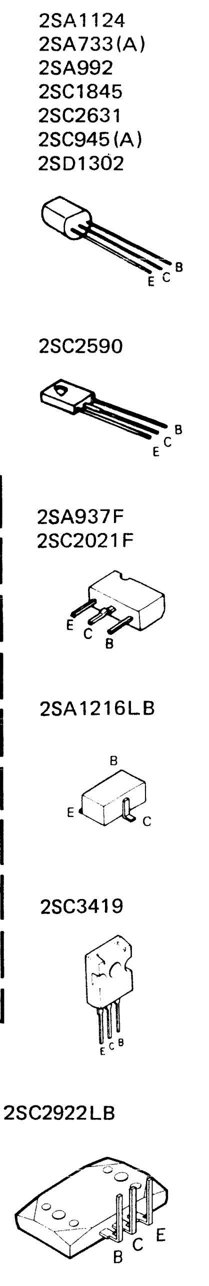

A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
7
DRIVER
POWER
Q23~30:CURRENT LIMITER
BIAS
IDL
MUTING
INPUT
Lch
Rch
E1
18V
17V
-18V
-81V
81V
34V
23.4V
D13
58V RED
0V BLK
58V ORG
0V BLU
25V BLU
RED 120V
WHT 0V
F1 7A
S1
(K, P) TYPE
AC120V 60Hz
(X00-2391-01)(A/2)
X07-227X-XX
X07 E/5
K,P TYPE(0-11)
X
U,M,UE,X TYPE (0-22)
O
(X07-2270-11)(B/5)
PL1 PL2 12V 100mA
LED DRIVE
METER RANGE
CN1
W1
(X07-2270-11)(C/5)
(X07-2270-11)(D/5)
SPEAKERS
S2-a
S2-b
OFF ↔ ON
W2
W3
E4
SPEAKERS A
SPEAKERS B
E3
PHONES
PROTECTION
IC1
2.7V
2.2V
3.2V
K1
MUTING CONTROL
(X07-2270-11)(A/5)
(X07-2270-22) (E/5)
(U, M, UE)TYPE
(X00-2390-81) (B/2)
240V ↔ 120V
S3
AC120V /240V 50/60Hz
(X07-2270-22) (A/5)
(X00-2390-81)(A/2)
(X07-2270-22) (E/5)
(X)TYPE
(X00-2392-71) (B/2)
240V 50/60Hz
(X07-2270-22) (A/5)
(X00-2392-71)(A/2)

IC1 : µPC1237HA

Q1~4 : 2SC1845(F,E)
Q5~8, 23, 24, 35 : 2SC945(A)(Q,P)
Q9, 10, 25~28, 36 : 2SA733(A)(Q,P)
Q11, 12 : 2SA1124(Q,R)
Q13, 14 : 2SC3419(Y)
Q15, 16 : 2SC3944A(Q,R)
Q17, 18 : 2SA1535A(Q,R)
Q19, 20 : 2SC2922LB
Q21, 22 : 2SA1216LB
Q29, 30 : 2SC2631(Q,R,S)
Q31, 32 : 2SD1302(S)
Q33 : 2SA992(F,E)
Q34 : 2SC2590(Q,R)
Q37,38 : 2SC2021F(R,S)
Q39,40 : 2SA937F(R,S)

D1, 2 : 1SS133
D3~12 : 1SS131
D13 : S15VB20
D14~17 : DSM1A1
D18, 19 : RD18ES(B) or HZS18N(B)
D20 : RD24ES(B) or HZS24N(B)
D21~34 : B30-0431-05

KM-206(K)


2SA1124
2SA733(A)
2SA992
2SC1845
2SC2631
2SC945(A)
2SD1302
E C B
2SC2590
E C B
2SA937F
2SC2021F
E C B
2SA1216LB
B E C
2SC3419
E C B
2SA1535A
2SC3944A
B C E
2SC2922LB
B C E
µPC1237HA
1
8

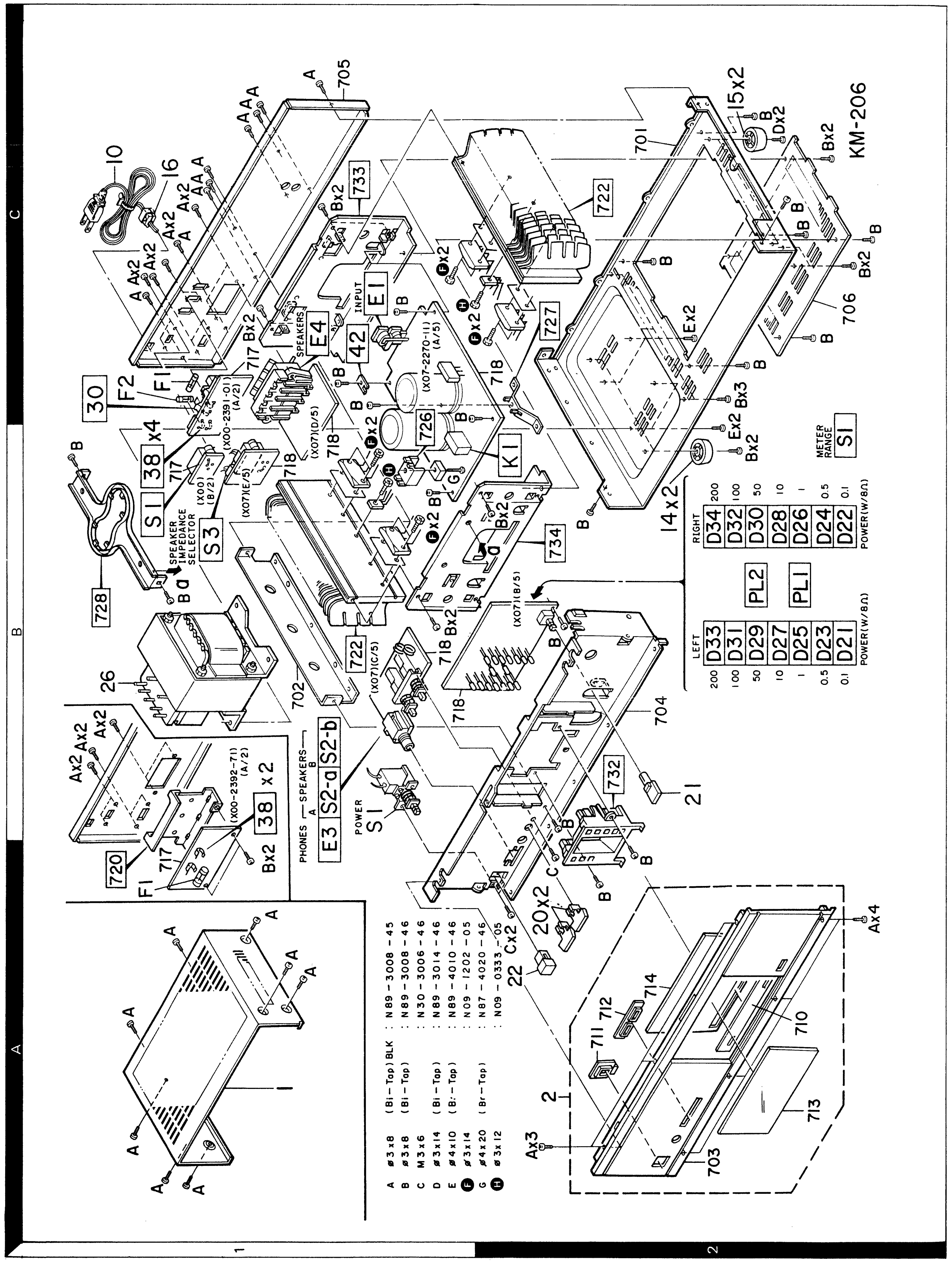
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

- DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

KM-206

KENWOOD

EXPLODED VIEW


KM-206
705
701
15x2
B
Dx2
Bx2
706
722
733
Bx2
10
16
A
AA
Ax2
E1
INPUT
42
E4
SPEAKERS
727
(X07-2270-11)(A/5)
718
726
K1
Fx2
30
F2
F1
717
Bx2
38
x4
S1
S3
SPEAKER IMPEDANCE SELECTOR
(X00-2391-01)(A/2)
(X07)(D/5)
(X07)(E/5)
(X00)(B/2)
728
Ba
26
734
(X07)(B/5)
722
(X07)(C/5)
702
718
704
14x2
Ex2
Bx3
METER RANGE
S1
RIGHT
D34 200
D32 100
D30 50
D28 10
D26 1
D24 0.5
D22 0.1
POWER(W/8Ω)
PL2
PL1
LEFT
D33 200
D31 100
D29 50
D27 10
D25 1
D23 0.5
D21 0.1
POWER(W/8Ω)
PHONES
SPEAKERS A B
E3
S2-a
S2-b
POWER
S1
732
21
Ax2
720
F1
717
38
x2
(X00-2392-71)(A/2)
Bx2
20x2
C
Cx2
22
Ax4
714
712
711
710
713
703
2
Ax3
1
A ø3x8 (Bi-Top)BLK : N89-3008-45
B ø3x8 (Bi-Top) : N89-3008-46
C M3x6 : N30-3006-46
D ø3x14 (Bi-Top) : N89-3014-46
E ø4x10 (Bi-Top) : N89-4010-46
F ø3x14 : N09-1202-05
G ø4x20 (Br-Top) : N87-4020-46
H ø3x12 : N09-0333-05
A
B
C
1
2

Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

⁎ New Parts

Parts without **Parts No.** are not supplied.

Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.

Telle ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti-nation 仕向	Re-marks 備考
				KM-206		
1	1A		A01-1482-01	METALLIC CABINET		
2	2A	⁎	A20-5173-02	PANEL ASSY		
-			B46-0092-03	WARRANTY CARD	K	
-			B46-0094-03	WARRANTY CARD	UUE	
-			B46-0095-03	WARRANTY CARD	UUE	
-			B46-0096-13	WARRANTY CARD	X	
-			B46-0121-03	WARRANTY CARD	P	
-		⁎	B50-6831-00	INSTRUCTION MANUAL(ENGLISH)		
-		⁎	B50-6832-00	INSTRUCTION MANUAL(FRENCH)	PMX	
-		⁎	B50-6833-00	INSTRUCTION MANUAL(SPANISH)	M	
-		⁎	B50-6834-00	INSTRUCTION MANUAL(ARABIC)	M	
-			B58-0223-04	CAUTION CARD (PRE-SET 120V)	U	
-			B58-0269-04	CAUTION CARD	K	
-			B58-0513-04	CAUTION CARD (PRESET220-240)	UE	
-			B59-0092-00	SERVICE DIRECTORY	UUE	
⚠ 10	1C		E30-0812-05	AC POWER CORD	UMUE	
⚠ 10	1C		E30-0974-05	AC POWER CORD	KP	
⚠ 10	1C		E30-1341-05	AC POWER CORD	X	
⚠ F1	1B		F05-3522-05	FUSE (SEMKO) (250V T3.5A)	X	
⚠ F1	1C		F05-7026-05	FUSE (UL) (250V 7A)	KP	
⚠ F1 ,2	1C		F05-3523-05	FUSE (250V 3.5A)	UMUE	
-		⁎	H01-7564-04	ITEM CARTON CASE		
-			H10-1892-02	POLYSTYRENE FOAMED FIXTURE		
-			H10-1893-02	POLYSTYRENE FOAMED FIXTURE		
-			H25-0223-04	PROTECTION BAG (750X350X0.03)		
-			H25-0232-04	PROTECTION BAG (235X350X0.03)		
14	2B		J02-0129-05	FOOT (L)		
⚠ 15	2C		J02-0179-05	FOOT (R)		
16	1C		J42-0083-05	POWER CORD BUSHING		
-			J61-0307-05	WIRE BAND		
20	2A		K27-0742-14	KNOB (BUTTON) SPEAKERS		
21	2B		K27-1264-04	KNOB (BUTTON) METER RANGE		
22	2A		K29-2001-04	KNOB ASSY(BUTTON)POWER		
⚠ 26	1B	⁎	L01-7901-05	POWER TRANSFORMER	KP	
⚠ 26	1B	⁎	L01-7905-05	POWER TRANSFORMER	UMUEX	
⚠ S1	1B		S40-1094-05	PUSH SWITCH (POWER TYPE)		
				POWER SUPPLY UNIT (X00-239X-XX) 1-01 : K,P 0-81 : U,M,UE 2-71 : X		
⚠ C1			C91-0023-05	CERAMIC 0.01UF AC250V	UMUE	
⚠ C1			C91-0647-05	CERAMIC 0.01UF P	KPX	
⚠ 30	1C	⁎	E03-0077-05	AC OUTLET	UMUE	
⚠ 30	1C	⁎	E03-0078-05	AC OUTLET	KP	
38	1B		J13-0041-05	FUSE CLIP	KPUMUE	
38	1A		J13-0054-05	FUSE CLIP	X	
-			J61-0307-05	WIRE BAND	X	
⚠ S1	2B		S31-2083-05	SLIDE SWITCH (POWER TYPE)	UMUEX	
				POWER AMPLIFIER UNIT (X07-2270-XX) 0-11 : K,P 0-22 : U,M,UE,X		
D21 -34	2B		B30-0431-05	LED(LN21CPH) METER		
PL1 ,2	2B	⁎	B30-1140-05	LAMP (12V,0.1A)		

E: Scandinavia & Europe	**K**: USA	**P**: Canada	**W**:Europe
U: PX(Far East, Hawaii)	**T**: England	**M**: Other Areas	
UE : AAFES(Europe)	**X**: Australia		

⚠ indicates safety critical components.

PARTS LIST

⁎ New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti-nation 仕向	Re-marks 備考
C1 ,2			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C3 ,4			CE04KW1A101M	ELECTRO 100UF 10WV		
C5 ,6			CC45FSL1H221J	CERAMIC 220PF J		
C7 ,8			CF92FV1H223J	MF 0.022UF J		
C9 ,10			CC45FSL1H470J	CERAMIC 47PF J		
C11 ,12			CC45FSL1H040C	CERAMIC 4.0PF C		
C13 ,14			CF92FV1H102J	MF 1000PF J		
C15 ,16		*	CE04KW1H330M	ELECTRO 33UF 50WV		
C17 ,18		*	C90-1394-05	ELECTRO 10000UF 90WV		
C19 ,20			CE04KW1E101M	ELECTRO 100UF 25WV		
C21		*	CE04KW2A220M	ELECTRO 22UF 100WV		
C22			CE04KW1V221M	ELECTRO 220UF 35WV		
C23 ,24			CF92FV1H153J	MF 0.015UF J		
C25 ,26			CK45FE2H103P	CERAMIC 0.010UF P		
C27			CE04KW1C220M	ELECTRO 22UF 16WV		
C28		*	C90-1334-05	NP-ELEC 47UF 10WV		
C29			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C30			CE04KW1C330M	ELECTRO 33UF 16WV		
C31			CF92FV1H223J	MF 0.022UF J		
C32			CC45FSL1H271J	CERAMIC 270PF J		
C33 ,34			CE04KW1V470M	ELECTRO 47UF 35WV		
C35 ,36			CE04KW1HR22M	ELECTRO 0.22UF 50WV		
C37 ,38			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C39 ,40			CC45FSL1H080D	CERAMIC 8.0PF D		
C41			CE04KW1H100M	ELECTRO 10UF 50WV		
C42 ,43			CK45FF1H103Z	CERAMIC 0.010UF Z		
42	1C		E23-0125-05	TERMINAL		
E1	1C		E13-0229-05	PHONO JACK (2P)		
E3	1A		E11-0162-05	PHONE JACK (3P)		
E4	1C		E20-0823-05	LOCK TERMINAL BOARD(8P)SPEAKER		
L1 ,2			L39-0085-05	PHASE-COMPENSATION COIL		
F	1B,1C		N09-1202-05	TAPPING SCREW (Ø3X14)		
H	1B,1C		N09-0333-05	TAPPING SCREW (Ø3X12)		
CP1 ,2			R90-0187-05	MULTI-COMP 0.22X2 K 5W		
R19 ,20			RD14AB2E621J	FL-PROOF RD 620 J 1/4W		
R25 ,26			RD14AB2E102J	FL-PROOF RD 1.0K J 1/4W		
R27 ,28			RD14AB2E132J	FL-PROOF RD 1.3K J 1/4W		
R29 ,30			RD14AB2E182J	FL-PROOF RD 1.8K J 1/4W		
R31 ,32			RD14AB2E822J	FL-PROOF RD 8.2K J 1/4W		
R33 ,34		*	RD14AB2E912J	FL-PROOF RD 9.1K J 1/4W		
R35 -38			RD14AB2E100J	FL-PROOF RD 10 J 1/4W		
R39 -42			RD14AB2E221J	FL-PROOF RD 220 J 1/4W		
R43 -46			RD14AB2E2R2J	FL-PROOF RD 2.2 J 1/4W		
R65			RS14DB3D100J	FL-PROOF RS 10 J 2W		
R66			RS14KB3D100J	FL-PROOF RS 10 J 2W		
R74			RS14DB3D121J	FL-PROOF RS 120 J 2W		
R75			RS14KB3A100J	FL-PROOF RS 10 J 1W		
R76			RS14DB3A100J	FL-PROOF RS 10 J 1W		
R77 ,78			RS14DB3D561J	FL-PROOF RS 560 J 2W		
R79 ,80		*	RS14DB3D472J	FL-PROOF RS 4.7K J 2W		
R81			RD14GB2E100J	FL-PROOF RD 10 J 1/4W		
VR1 ,2			R12-1066-05	TRIMMING POT.(1K)IDLE		

E: Scandinavia & Europe **K**: USA **P**: Canada **W**:Europe
U: PX(Far East, Hawaii) **T**: England **M**: Other Areas
UE : AAFES(Europe) **X**: Australia

⚠ indicates safety critical components.

KM-206

PARTS LIST

⋇ New Parts

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Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti-nation 仕向	Re-marks 備考
K1	2B		S51-2078-05	MAGNETIC RELAY		
S1	2B		S40-2323-05	PUSH SWITCH (METER RANGE)		
S2	1B		S42-2138-05	MULTIPLE PUSH SWITCH(SPEAKERS)		
S3	1B	⋇	S31-2113-05	SLIDE SWITCH (SPKR IMP SEL)	UMUEX	
D1 ,2			1SS133	DIODE		
D3 -12			1SS131	DIODE		
D13			S15VB20	DIODE		
D14 -17			DSM1A1	DIODE		
D18 ,19		⋇	HZS18N(B)	ZENER DIODE		
D18 ,19		⋇	RD18ES(B)	ZENER DIODE		
D20		⋇	HZS24N(B)	ZENER DIODE		
D20		⋇	RD24ES(B)	ZENER DIODE		
IC1			UPC1237HA	IC(POWER AMP)		
Q1 -4			2SC1845(F,E)	TRANSISTOR		
Q5 -8			2SC945(A)(Q,P)	TRANSISTOR		
Q9 ,10			2SA733(A)(Q,P)	TRANSISTOR		
Q11 ,12			2SA1124(Q,R)	TRANSISTOR		
Q13 ,14			2SC3419(Y)	TRANSISTOR		
Q15 ,16		⋇	2SC3944A(Q,R)	TRANSISTOR		
Q17 ,18		⋇	2SA1535A(Q,R)	TRANSISTOR		
Q19 ,20		⋇	2SC2922LB	TRANSISTOR		
Q21 ,22		⋇	2SA1216LB	TRANSISTOR		
Q23			2SC945(A)(Q,P)	TRANSISTOR		
Q24			2SC945(A)(Q,P)	TRANSISTOR		
Q25 ,26			2SA733(A)(Q,P)	TRANSISTOR		
Q27			2SA733(A)(Q,P)	TRANSISTOR		
Q28			2SA733(A)(Q,P)	TRANSISTOR		
Q29 ,30			2SC2631(Q,R,S)	TRANSISTOR		
Q31 ,32			2SD1302(S)	TRANSISTOR		
Q33			2SA992(F,E)	TRANSISTOR		
Q34			2SC2590(Q,R)	TRANSISTOR		
Q35			2SC945(A)(Q,P)	TRANSISTOR		
Q36			2SA733(A)(Q,P)	TRANSISTOR		
Q37 ,38		⋇	2SC2021F(R,S)	TRANSISTOR		
Q39 ,40		⋇	2SA937F(R,S)	TRANSISTOR		

E: Scandinavia & Europe	**K:** USA	**P:** Canada	**W:**Europe
U: PX(Far East, Hawaii)	**T:** England	**M:** Other Areas	
UE : AAFES(Europe)	**X:** Australia		

⚠ indicates safety critical components.

Note : Specifications is written on page 4.

Note :

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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